# CITY OF FAIRFIELD WATER SHORTAGE CONTINGENCY PLAN

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## CITY OF FAIRFIELD WATER SHORTAGE CONTINGENCY PLAN

#### INTRODUCTION

Recognizing the need to be prepared for potential water shortages due to drought, earthquake, contamination or other disaster, the City of Fairfield has prepared and adopted (Appendix A) the following water shortage contingency plan. The water shortage contingency plan will be added to the City's existing Urban Water Management Plan in accordance with Assembly Bill 11 (Appendix B).

#### WATER CONSUMPTION

Table 1 shows the City's past, present, and estimated future water consumption through 1996 by category. Future water consumption assumes 3% annual growth in each category, normal rainfall, and normal consumption patterns adjusted for post-drought practices. The "worst case scenario" is discussed below.

TABLE 1 - WATER CONSUMPTION (Acre Feet)

	1987	1988	1989	1990	1991	1992	1993	1994*	1995*	1996*
Residential	7,054	8,312	, 8,575	9,364	8,024	8,632	8,674	8,934	9,203	9,479
Commercial	897	1,074	1,122	1,139	1,916	1,102	1,072	1,105	1,138	1,172
Sovernment	362	367	329	360	349	350	247	254	262	270
<u>जेन्सं</u> ज्ञे	2,696	2,596	3,079	2,802	2,407	2,345	2,394	2,466	2,540	2,516
noiegini	1,580 •	. 1,435	1,378	1,306	1,471	1,368	1,769	1,322	1,877	1,933
Other	119	251	168	150	95	89	478	493	508	573
System Losses	2,784	2,275	1,388	21	848	1,239	2,187	1,682	1,733	1,785
Total City	15,492	16,410	16,031	15,642	14,210	15,625	16,821	16,756	17,261	17,778

<sup>\*</sup> Estimated

#### WATER SUPPLY

The City of Fairfield has water entitlements from two primary sources, the Solano Project (Lake Berryessa) and the State Water Project (North Bay Aqueduct). Beyond our own entitlements, we also have agreements with the Solano Irrigation District (SID) by which we have rights to a portion of SID's water (which also comes from the Solano Project). The City of Fairfield also "banks" water in Lake Berryessa for times of drought. Below is a table summarizing the characteristics of these supplies:

TABLE 2 - WATER SUPPLY SUMMARY

Source	Maximum Entitlements (Acre Feet)	Water Storage
Solano Project	9,200	Lake Berryessa
State Water Project <sup>1</sup>	11,300	Lake Oroville
SID 1974 Agreement <sup>2</sup>	6,000	Lake Berryessa
SID 1974 Agreement	7,300	Lake Berryessa
SID 1987 Subagreements	1,400	Lake Berryessa
Water Bank'	12,370	Lake Berryessa
Total Supply	48,570	N/A

<sup>&</sup>lt;sup>1</sup> The City's maximum entitlement will not be reached until 1995. The State Water Project reliability during droughts is also a factor. Deficiency in 1991, for example, was 70 percent.

<sup>&</sup>lt;sup>2</sup> Water to serve lands remaining in SID or detached from SID after 1974 agreement.

<sup>&</sup>lt;sup>3</sup> Water to serve lands detached from SID prior to 1974 agreement. This water available upon payment by City to SID of detachment fee.

Not a fixed amount. The 12,370 acre feet is as of March 1, 1994.

#### WATER SUPPLY SHORTAGE STAGED RESPONSE

The City of Fairfield has developed a four staged response program to deal with water shortages (Table 3 below). Each stage consists of specific prohibitions, regulations, fines, penalties, and rate structure to encourage the appropriate level of conservation. Though all four stages have both voluntary and mandatory components, none can be considered a rationing program because they do not strictly limit water use. However, Stages III and IV are most restrictive primarily due to the landscape irrigation component, which prohibits irrigation of any decorative landscaping.

'TABLE 3 - WATER SHORTAGE RESPONSE STAGES

Stage	Demand Reduction Goal
Stage I	Up to 15% reduction
Stage II	Up to 30% reduction
Stage III	Up to 50% reduction
Stage IV	50%÷ reduction

Conservation measures for each stage are based on priorities set in the California Water Code Chapter 3 and through public input. The priorities are as follows:

- · HEALTH & SAFETY interior residential use and fire fighting
- COMMERCIAL, INDUSTRIAL, GOVERNMENTAL maintain jobs & economic base
- EXISTING LANDSCAPING especially trees & shrubs
- RECREATIONAL & ORNAMENTAL pools, spas & decorative fountains
- NEW DEMAND projects without permits or other vested rights when shortage declared

The primary components of each stage consists of a tiered rate structure, regulations/ prohibitions, and penalties/fines. Details of each response are summarized in Table 4 below.

### TABLE 4 - STAGE COMPONENTS

	Normal	Stage I - Recovery	Stage II - Drought	Stage III - Critical Drought	Stage IV - Emergency
	10.114	Program	Switcher	Single III - College Danger	Zanooma Zanooma
TURE'		3 Tima	3 Tiers	4 Tima	4 Tiers
Pates.					· · -
i <del></del> 1	None	25% >60ccf (@750gpd)	40% >40ez (@500gpd)	60% >28eed (@350gpd)	100% >16cmf (@200gpd)
i <del>m</del> 2	Homa	50% >80cm(@1000gpd)	80% >60cci (@750gpa)	120% >40ccf (@500gpd)	200% >32ccf (@400gpd)
lar 3	None	N/A	N/A	200% >60ccf (@750gpa)	300% >40ccf (@500gpd)
H atm	M/A	Luge Family Luge Lot Medical	Large Family Large Lot Medical	Large Family Medical	Medical
aniv miv	No Volume Incress	3% Volume Incresse	7% Volume Income	11% Youme Income	15% Volume Income
, [	No Volume Incress	3% Volume Incresse	7% Yoluma Incressa	11% Volume Increase	15% Volume Instead
.	No Volume Incresse	5% Yokuna Incressa	11% Volume Incresse	500% Volume Incresse	1000% Volume Increase
AZ.	Congolizólo water leaks	Normal prohibicions plus.	_eniq enchiologum I sgetE	Stage II prohibitions plus	Stage III prohibicions
	New installation of single-pass cooling systems using potable water	Washing of paved areas except to protect public health and safety	Running water for washing of buildings, etc.	Landscape irrigation (none)  Hydrant flushing	New construction (without existing permit)
	Landscape arigation between Noon and 6:000mm, (Daylight savings time only)			Construction of new pools, spas, stc.	Filling of pools, spas, decorative fountains, etc.
•	(Ordinance 94-23)				
7/5		Washing of vehicles to be done at commercial car wash or with	Stage I regulations plus	Sizge II regulations plus	Stage III regulations
		controllable water source such as bucket or hose with shut-off nozzla	Residurants serve water upon request	Reclaimed water only for mustruction projects	
			Hotels, etc. to post notice of drought condition		
			Reclaimed water for construction if feasible		
LIES	(Ordinance 94-23)				,
ļ	Written warning	Written warning	Written warning	\$50 fine	\$100 fine
	\$25 fine .	\$50 fine	\$50 fine	5100 fine	5200 fine
r	\$50 fine	\$100 fine	\$100 fins	5200 fine	\$350 fine
-	, \$100 and installation of flow	\$250 and installation of flow restrictor	5250 and installation of	\$250 and installation of flow restrictor	\$500 and installation of flow restrictor
			AND A CONTRACTOR	1000000	3, 11911 ) ELECTOR

Any or all of these components in each stage may be enacted, by determination of the Public Torks Director, in order to meet the demand reduction goal for that response stage.

<sup>&</sup>quot;Number of tiers counts "base" rate as one tier.



#### SUPPLY SHORTAGE TRIGGERING LEVELS

In order to protect the City's health and safety and minimize the social and economic impacts of water shortages, the City has established "triggers" to implement the various stages of conservation based on the City's annual water supply analysis. The "water supply analysis" is based on rainfall, storage levels, continuous years of drought, current consumption levels, existing water contracts, water supply deficiency declarations, and/or any other factors significantly impacting the integrity of the City's water supply. Each stage will be declared by the Fairfield City Council in accordance with findings based on the water supply analysis. The water supply analysis will recommend a percent reduction. The stages are defined as follows:

Stage I	Where the City water supply analysis demonstrates the need for up to a 15% reduction in water consumption.
Stage II	Where the City water supply analysis demonstrates the need for up to a 30% reduction in water consumption.
Stage III	Where the City water supply analysis demonstrates the need for up to a 50% reduction in water consumption.
Stage IV	Where the City water supply analysis demonstrates the need for a 50% or more reduction in water consumption.

#### REVENUE AND EXPENDITURE IMPACTS

Table 5 below contains predictions of Fairfield's revenues and expenditures at 15, 30, 40, and 50 percent reduction levels (in consumption) in relation to each staged response. This analysis includes the following assumptions:

- Volume and daily service rates are static.
- No new connections at Stage IV.
- · New capital projects will be deferred at Stage III & IV.

TABLE 5 - ESTIMATED REVENUES & EXPENDITURES

	Normal	Stage !	Stage II	Stage III	Stage IV
Water Sales (acre feet)	14,800	12,580	10,360	3,380	7,400
% Remedea		15.0%	30.0%	40.0%	50.0%
Revenues					• :
Water Saies (Base Charge)	<b>S</b> 5,993,492	- \$5,627,416	\$4,562,605	\$4,165,444	<b>\$3</b> ,459,601
Water Saies (Surcharge)	0	192,572	551,143	107,098	154,118
Meter Charge	4;900,000	4,900,000	4,900,000	4,900,000	4,900,000
Connection Feet	1,300,000	1,300,000	1,200,000	1,200,000	0
Other Charges	1,100.000	1,100.000	1.078.000	1.045.000	990,000
Total	\$14,793,492	\$13,619,988	\$12,391,748	\$11,117,542	\$9,503,720
% Reduction		7.9%	12.9%	24.8%	35.8%
Expenses					
Operations	\$6,000,000	<b>\$</b> 5,865,00 <b>0</b>	<b>\$5,7</b> 30,000	<b>\$</b> 5,640,000	\$5,550,000
Projects	2,000,000	2,000,000	2,000,000	1,000,000	0
Debt Service	<u>6.500.000</u>	6.500.000	<u>6.500.000</u>	<u>6,500.000</u>	<u>6.500.000</u>
Total	\$14,500,000	\$14,365,000	\$14,230,000	\$13,140,000	\$12,050,000
% Reduction		0.9%	1.9%	9.4%	16.9%
Available for Reinvestment or Reserve	\$293,492	(\$745,012)	(31,338,252)	(S2,022,458)	(\$2,546,280)

The table above indicates net reductions (% revenue reductions less % expense reductions) of 7.0, 11.0, 15.4, 18.9 percent of normal for Stages I through IV respectively. Both volume and meter charges may be raised at each stage by the commiserate amount to make up the deficiency but will remain revenue neutral—not to exceed expenses by more than 2%. City Council action will be required to adjust (lower or raise) water rates if necessary to balance revenues and expenses.

#### WORST CASE SCENARIO

The City's worst case scenario is based on the following assumptions:

- · Solano County will experience three more years of drought (dry or critically dry years).
- The Solano Project will require a 13% reduction in 1994, 35% reduction in 1995, and 45% reduction in 1996.
- For the State Water Project, DWR will require a 50% reduction in 1994, and an 80% reduction in 1995 and 1996.
- · City will maintain the water bank at a minimum level of 2,000 acre feet.

Table 6 below summarizes the impact of the worst case on total water supplies for the next 12 to 36 months.

TABLE 6 - WORST CASE SCENARIO SUMMARY
(Acre Feet)

(Atte reer)					
Water Supply	1994 (12 Month)	1995 (24 Month)	1996 (36 Month)		
Soizno Project Emitlements Expected Delivery	9,200 8,004	9, <u>7</u> 00 5,980	9,200 5,060		
% Decrease	13%	25%	40%		
State Water Project Emplements Expected Delivery % Decrease	6,600 3,300 50%	11,800 2,360 30%	11,300 2,360 80%		
SID 1974 Agreement Supply Expected Delivery	13,800 6,000	13,200 6,000	13,800 6,000		
SID 1987 Agreement Supply Expected Delivery	1,400 1,400	2,000 2,000	2,600 2,600		
Other Supplies Expected Delivery	1,000	. 800	600		
Water Bank Supply Expected Delivery Balance	12,020 0 12,020	12,020 121 11,899	11,899 1,158 10,741		
Total Entitlements/Supply Expected Delivery	43,020 18,124	48,820 17,161	49,420 17,778		
Estimated Consumption	16,756	17,261	17,778		
Expected Deliveries	18,124	17,261	17,778		
Sumplus/(Deficiency) <sup>4</sup> % of Consumption	1,368 8,2%	0.0%	0.0%		

<sup>&</sup>lt;sup>6</sup> Deficiency requires conservation or additional water bank purchases.

#### DISASTER RESPONSE

In response to a disaster such as an earthquake or contamination of the water supply, the City of Fairfield is a natructing water storage facilities to meet peak demand for two days. Presently, the City has a maximum storage pacity of 69.3 million gallons. The City estimates maximum storage capacity to reach 102 million gallons by the 7 2005.

Stored water supply will be extended in the event of an emergency by implementing any or all of certain mergency conservation measures. These emergency conservation measures (outlined below) become effective inmediately upon declaration by the City Manager.

#### mergency Measures

- · Limit residential consumption down to 100 gallons per residential unit per day.
- Limit commercial and industrial customers to between 25-75% of annual average daily usage dependent upon
  the nature and severity of the disaster. The Director of Public Works shall determine the amount and duration
  of the water restriction.
- · No interruptible landscape irrigation.
- No landscape irrigation by other customers.
- No construction activity, new or existing, except where reclaimed water is used or for construction of projects essential to the general health and welfare of the public.
- · No washing of buildings, sidewalks, streets, or other structures except to protect public health and welfare.
- No washing of cars, boats, trucks, machinery or other equipment except where recycled water is used and only
  for the purpose of maintaining said vehicle/equipment or to protect the general health and welfare of the
  public.
- No controllable water leaks.
- No washing of paved areas.
- · No landscape irrigation.
- No hydrant flushing.

#### Fines/Penalties

During a declared emergency, police, fire, public works, utility billing and meter reader staff shall be authorized to ite water customers for any violation of above mentioned restrictions. All notices of violation and violation hearings shall be in accordance with Ordinance 94-23. Fines and penalties for violation of water restrictions are as follows:

1st Offense:

Offender will receive a written warning.

2nd Offense:

Offender will be fined \$250.

3rd Offense:

Offender will be fined \$500 and a flow restrictor will be installed for the duration of the

emergency.

Any water customer cited for violation of water restrictions has a right to a hearing in accordance with Ordinance 94-

## APPENDIX A

A Resolution Adopting the Water Shortage Contingency Plan

#### CITY OF FAIRFIELD

## RESOLUTION NO. 94-249

## A RESOLUTION ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the California Legislature enacted Assembly Bill 11 during the 1991 Extraordinary Session of the California Legislature (an act to amend California Water Code Sections 10620, 10621, 10631, and 10652, and to add Section 10656 to the California Water Code, relation to water); and

WHEREAS, AB11 mandates that every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to develop a Water Shortage Contingency Plan; and

WHEREAS, AB11 mandates that said Plan be filed with the California Department of Water Resources; and

WHEREAS, the City of Fairfield is an urban supplier of water delivering water to more than 3,000 customers, and has therefore, prepared and circulated for public review a Draft Water Shortage Contingency Plan, in compliance with the requirement of AB11 and a properly noticed public hearing regarding said Draft Plan was held by the City Council on October 18, 1994, and a Final Water Shortage Contingency Plan prepared;

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Fairfield as follows:

- 1. The Water Shortage Contingency Plan is hereby adopted and ordered filed with the City Clerk.
- 2. The City Manager is hereby authorized and directed to file this Plan with the California Department of Water Resources.

- The City Manager shall implement this Water Shortage Contingency Plan, in part or in whole, upon declartion by the City Council.
- The City Manager shall recommend to the City Council regarding additional procedures, rules, and regulations to carry out effective and equitable allocation of water resources during a water shortage.

PASSED AND ADOPTED this 1st day of November, 1994, by the following vote:

AYES:

Councilmembers: Lessler / O'Regan / Pettygrove / Polk / Hammond

NOES:

Councilmembers: Nove

ABSENT:

Councilmembers: Now

ABSTAINED:

Councilmembers: Nove

Attest:

## APPENDIX B

Relevant Sections of the California Government & California Water Codes

## Relevant Sections of the California Government & California Water Codes

#### Section of the California Government Code

- Section 6061. Publication of notice pursuant to this section shall be for one time.
- Section 6066. Publication of notice pursuant to this section shall be once a week for two successive weeks. Two public notices in a newspaper published once a week or oftener with at least five days intervening between respective publication dates, not counting such publication dates, are sufficient. The period of notification commence upon the first day of publication and terminates at the end of the fourteenth day including therein the first day.

#### Sections of the California Water Code Chapter 3 - Water Shortage Emergencies

- Section 350. The Governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, may declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.
- Section 351. Excepting in event of a breakage or failure of a dam, pump, pipe line or conduit causing an immediate emergency, the declaration shall be made only after a public hearing at which consumers of such water supply shall have an opportunity to be heard to protest against the declaration and to present their respective needs to said governing board.
- Section 352. Notice of the time and place of hearing shall be published pursuant to Section 6061 of the Government Code at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published, and circulated in the county in which the area is located.
- Section 353. When the governing body has so determined and declared the existence of an emergency condition of water shortage within its service area, it shall thereupon adopt such regulations and restrictions on the delivery of water and the consumption within said area of water supplied for public use as will in the sound discretion of such governing body conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.
- Section 354. After allocating and setting aside the amount of water which in the opinion of the governing body will be necessary to supply water needed for domestic use, sanitation,

and for protection, the regulations may establish priorities in the use of water for other purposes and provide for the allocation, distribution, and delivery of water for the same purpose of purpose.

- Section 355. The regulations and restrictions shall thereafter be and remain in full force and effect during the period of the emergency and until the supply of water available for distribution within such area has been replenished or augmented.
- Section 357. If the regulations and restrictions on delivery and consumption of water adopted pursuant to this chapter conflicts with any law establishing the rights of individual consumers to receive either specific or proportionate amounts of the water supply available for distribution within such service area, the regulations and restrictions adopted pursuant to this chapter shall prevail over the provisions of such laws relating to water rights for the duration of the period of emergency; provided, however, that any distributor of water which is subject to regulation by the State Public Utilities Commission shall before making such regulations and restrictions effective secure the approval thereof of the Public Utilities Commission.
- Section 358. Nothing in this chapter shall be constructed to prohibit or prevent review by any court of competent jurisdiction of any finding or determination by a governing board of the existence of an emergency or of regulations or restrictions adopted by such board, pursuant to this chapter, on the ground that any such action is fraudulent, arbitrary, or capricious.